

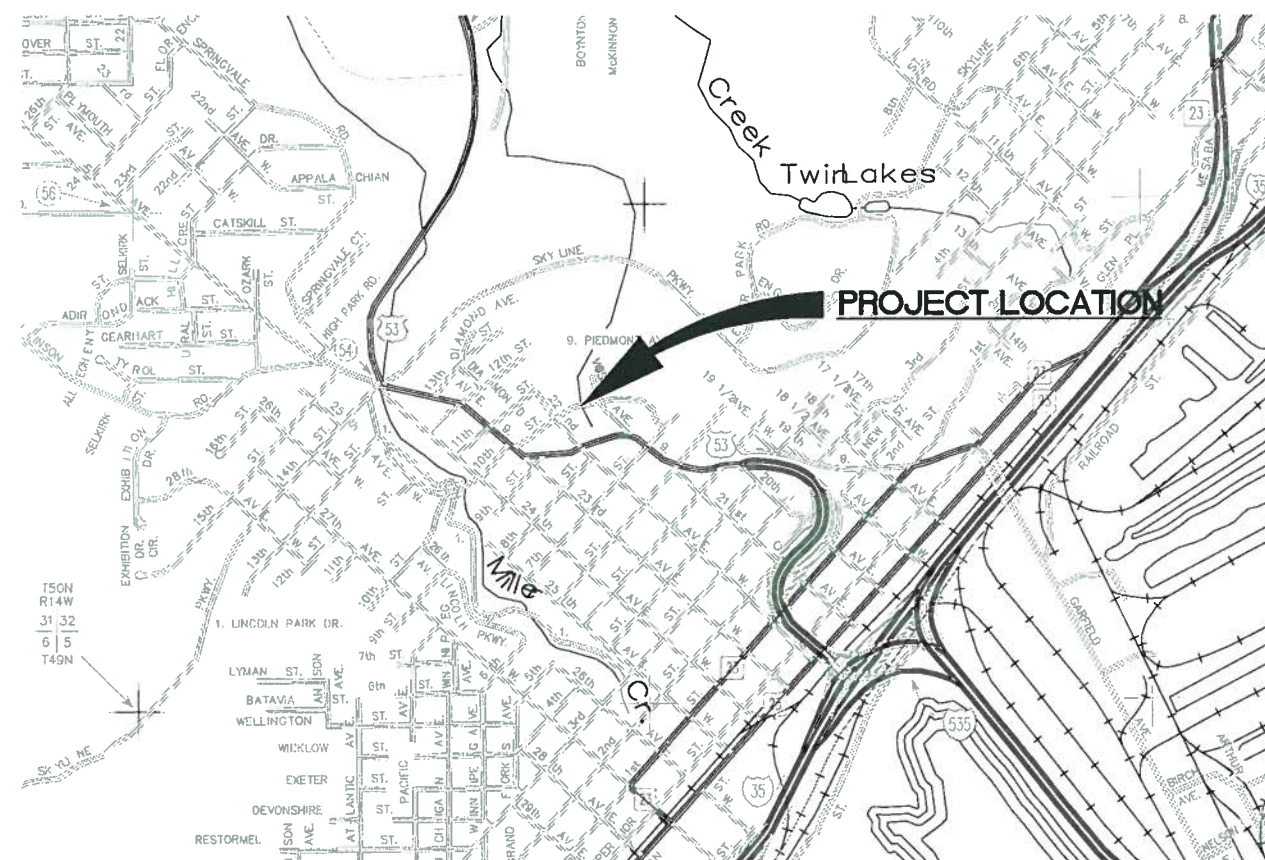
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LEGEND	
	STREET CENTERLINE
	SURVEY BASELINE
	COUNTY SECTION QUARTER SIXTEENTH
	CORPORATE LIMITS
EXISTING	
	RIGHT OF WAY
	PERMANENT EASEMENT
	PROPERTY LINE
	R.R. RIGHT OF WAY
	SANITARY SEWER AND MANHOLE
	FORCE MAIN
	SANITARY SEWER SERVICE & CLEANOUT
	WATER MAIN, HYDRANT AND VALVE
	WATER SERVICE AND CURB STOP BOX
	WATER VALVE MANHOLE
	STORM SEWER, APRON, MANHOLE AND CATCH BASIN
	CULVERT
	BULKHEAD
	BURIED FIBER OPTIC CABLE
	BURIED FIBER OPTIC DUCT OR CONDUIT
	BURIED PHONE CABLE AND PEDESTAL
	BURIED PHONE DUCT OR CONDUIT AND MANHOLE
	BURIED TV CABLE AND PEDESTAL
	BURIED ELECTRIC CABLE
	BURIED ELECTRIC DUCT OR CONDUIT AND MANHOLE
	OVERHEAD ELECTRIC, POLE AND DOWN GUY ANCHOR
	LIGHT POLE
	TRAFFIC SIGNAL STANDARD
	GAS MAIN
	GAS SIGN, VALVE AND VENT
	PETROLEUM PIPELINE
	SOIL BORING
	TRAVERSE POINT
	CONCRETE CURB AND GUTTER
	EXISTING PAVEMENT OR SIDEWALK
	SIGN (HWY, PARK, STOP, ETC.)
	STREET NAME SIGN
	DITCH
	RAILROAD TRACKS
	FENCE (UNIDENTIFIED)
	BARBED WIRE FENCE
	CHAIN LINK FENCE
	ELECTRIC WIRE FENCE
	WOOD FENCE
	WOVEN WIRE FENCE
	PLATE BEAM GUARDRAIL
	CABLE GUARDRAIL
	DECIDUOUS AND CONIFEROUS TREE
	BUSH-SHRUB
	WOODED AREA
	WETLAND
	BUILDING
PROPOSED	
	NEW RIGHT OF WAY
	PERMANENT EASEMENT
	TEMPORARY EASEMENT
	SANITARY SEWER AND MANHOLE
	FORCE MAIN
	SANITARY SEWER SERVICE & CLEANOUT
	WATER MAIN, HYDRANT AND VALVE
	WATER SERVICE AND CURB STOP BOX
	WATER VALVE MANHOLE
	STORM SEWER, MANHOLE AND CATCH BASIN
	CULVERT
	BULKHEAD
	DRAIN PIPE
	DITCH
	CONCRETE CURB AND GUTTER
	SILT FENCE
	FLOATATION SILT CURTAIN
	BIOROLL
	LIGHT POLE
	TRAFFIC SIGNAL, STANDARD
	SIGN (HWY, PARK, STOP, ETC.)
	STREET LIGHT FEED POINT
	STREET LIGHTING CABLE

# CITY OF DULUTH, MINNESOTA

## CONSTRUCTION PLANS FOR CULVERT REPLACEMENT, ROADWAY RECONSTRUCTION, STORM SEWER AND WATER MAIN 10TH STREET

CITY PROJECT NO. 1136  
FLOOD LOCATION NO. 55



SCALES	
INDEX MAP	0' 1000'
PLAN	0' 20'
PROFILE	0' HOR 20' 0' VER 5'

NOTE:  
THE SUBSURFACE UTILITY QUALITY INFORMATION IN THIS PLAN IS LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02 ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

THE CONTRACTOR SHALL CALL THE GOPHER STATE ONE CALL SYSTEM AT 811 BEFORE COMMENCING EXCAVATION.

GOVERNING SPECIFICATIONS  
THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN EXCEPT AS MODIFIED BY THE SPECIFICATIONS FOR THIS PROJECT.

THE 2011 EDITION OF THE CITY OF DULUTH PUBLIC WORKS AND UTILITIES DEPARTMENT STANDARD CONSTRUCTION SPECIFICATIONS AND ALL AMENDMENTS SHALL APPLY.

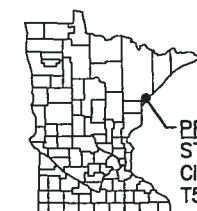
ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MMUTCD, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS", - CURRENT EDITION.

### INDEX

SHEET NO.	DESCRIPTION
1	TITLE
2	ESTIMATED QUANTITIES
3	CONSTRUCTION DETAILS
4	CONSTRUCTION DETAILS
5	CONSTRUCTION DETAILS
6	CONSTRUCTION DETAILS
7	TYPICAL SECTION
8	PLAN AND PROFILE
9	STORM PROFILES
10	RESTORATION PLAN

THIS PLAN CONTAINS 10 SHEETS.

### PROJECT LOCATION



PROJECT LOCATION  
ST. LOUIS COUNTY  
CITY OF DULUTH  
T50N R14W SEC. 32

APPROVED: 8/31/12  
CHIEF ENGINEER OF TRANSPORTATION DATE

APPROVED: 8/31/12  
CHIEF ENGINEER OF UTILITIES DATE

APPROVED: 8/31/12  
CITY ENGINEER DATE

CITY OF DULUTH, MINNESOTA



PHONE: 218.279.3000  
418 W SUPERIOR ST STE 200  
DULUTH, MN 55802-1512  
www.sehinc.com

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Signature: Matthew J. Bolf, P.E.  
Date: 08/23/12 Lic. No. 43913

FILE NO.

DULUTH121351

1

10



Know what's below.  
Call before you dig.

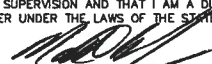
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STATEMENT OF ESTIMATED QUANTITIES					
NOTE	ITEM NO.	ITEM DESCRIPTION		UNIT	ESTIMATED QUANTITIES
	2021.501	MOBILIZATION		LUMP SUM	1
	2104.501	REMOVE SEWER PIPE (STORM)	(P)	LIN FT	40
	2104.501	REMOVE CURB AND GUTTER		LIN FT	65
	2104.503	REMOVE CONCRETE DRIVEWAY PAVEMENT	(P)	SQ FT	142
	2104.509	REMOVE MANHOLE OR CATCH BASIN		EACH	1
	2104.513	SAWING BIT PAVEMENT (FULL DEPTH)		LIN FT	70
6	2104.601	REMOVE MISCELLANEOUS DEBRIS		LUMP SUM	1
10	2105.501	COMMON EXCAVATION (CV)		CU YD	120
	2105.522	SELECT GRANULAR BORROW MOD 7% (CV)		CU YD	65
2,3	2105.523	COMMON BORROW (LV)		CU YD	200
	2105.604	GEOTEXTILE FABRIC TYPE V		SQ YD	201
7	2211.503	AGGREGATE BASE (CV) CLASS 5		CU YD	52
1,7	2360.501	TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)		TON	14
1	2360.501	TYPE SP 12.5 NON WEARING COURSE MIXTURE (3,C)		TON	17
5	2501.515	60" RC PIPE APRON		EACH	2
	2502.541	4" PERF PVC PIPE DRAIN		LIN FT	126
	2503.602	CONNECT TO EXISTING DRAIN TILE		EACH	4
	2503.541	60" RC PIPE SEWER CLASS III		LIN FT	71
11	2503.602	CONNECT TO EXISTING STORM SEWER		EACH	2
	2504.602	CONNECT TO EXISTING WATERMAIN		EACH	2
2	2504.603	8" HDPE WATER MAIN SDR-11		LIN FT	38
	2504.604	3" POLYSTYRENE INSULATION		SQ YD	5
	2505.602	CONNECT TO EXISTING GAS MAIN (ABANDONED)		EACH	2
	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 96-4020		LIN FT	11.23
	2506.516	CASTING ASSEMBLY		EACH	1
	2531.501	CONCRETE CURB & GUTTER DESIGN B624		LIN FT	126
	2531.507	7" CONCRETE DRIVEWAY PAVEMENT		SQ YD	16
9	2563.601	TRAFFIC CONTROL		LUMP SUM	1
8	2573.502	SILT FENCE, TYPE HEAVY DUTY		LIN FT	100
	2573.530	STORM DRAIN INLET PROTECTION		EACH	4
	2573.602	TEMPORARY ROCK CONSTRUCTION ENTRANCE		EACH	2
4	2575.555	TURF ESTABLISHMENT		LUMP SUM	1

NOTES:	
1	CALCULATED AT 120 LBS./SQ. YD./INCH.
2	FOR FILLING WASHOUT AREA AS DIRECTED BY THE ENGINEER. SEE PLAN SHEETS FOR LOCATIONS.
3	COMMON BORROW IS DEFINED AS ANY SOILS WITH THE EXCEPTION OF UNPROCESSED ROCK, CLAY, TOPSOIL, PEAT, SILT LOAM, WOOD, OR OTHER ORGANIC SOILS. NO MATERIAL SHALL BE LARGER THAN 6" IN SIZE.
4	DISTURBED AREAS SHALL BE RESTORED WITH 4" TOPSOIL, SEED (TYPE 250) @ 70 LBS./ACRE, FERTILIZER (TYPE 22-5-10) @ 350 LBS./ACRE, AND EROSION CONTROL BLANKET CATEGORY 3.
5	END TREATMENTS (RIPRAP) SHALL BE INCIDENTAL.
6	SEE SPECIAL PROVISIONS.
7	INCLUDES DRIVEWAY RESTORATION.
8	TO BE USED AS DIRECTED BY THE ENGINEER.
9	TRAFFIC CONTROL SHALL CONSIST OF MAINTAINING THE IN PLACE DETOURS AND LANE CLOSURES THROUGHOUT THE DURATION OF THE PROJECT.
10	ASSUMES 2' OF EXCAVATION FOR AREAS OF NEW ROADWAY BETWEEN SAWCUTS. INCLUDES 165 SQ YD BITUMINOUS REMOVAL.
11	REMOVAL AND REPLACEMENT OF EXISTING PIPES IN ORDER TO CREATE NEW CONNECTION SHALL BE CONSIDERED INCIDENTAL.
12	INCLUDES ALL FITTINGS.

STANDARD PLATES	
THESE STANDARD PLATES AS APPROVED BY THE FHWA SHALL APPLY	
PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE
3006G	GASKET JOINT FOR R.C. PIPE
3007D	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133C	RIPRAP AT RCP OUTLETS
3145F	CONCRETE PIPE TIES
4005L	MANHOLE OR CATCH BASIN TYPE A & B CONE SECTIONS PRECAST- DESIGN F
4011E	PRECAST CONCRETE BASE
4020J	MANHOLE OR CATCH BASIN
4026A	CONCRETE ENCASED CONCRETE ADJUSTING RINGS
4101D	RING CASTING FOR MANHOLE OR CATCH BASIN
4108F	ADJUSTING RINGS FOR CATCH BASINS AND MANHOLES
7102J	CONCRETE CURB AND GUTTER
8000I	STANDARD BARRICADES
9102D	TURF ESTABLISHMENT AREAS (AT PIPE CULVERT ENDS)

DRAWN BY: ACO				
DESIGNER: DRH				
CHECKED BY: MJB				
DESIGN TEAM	NO.	BY	DATE	REVISIONS

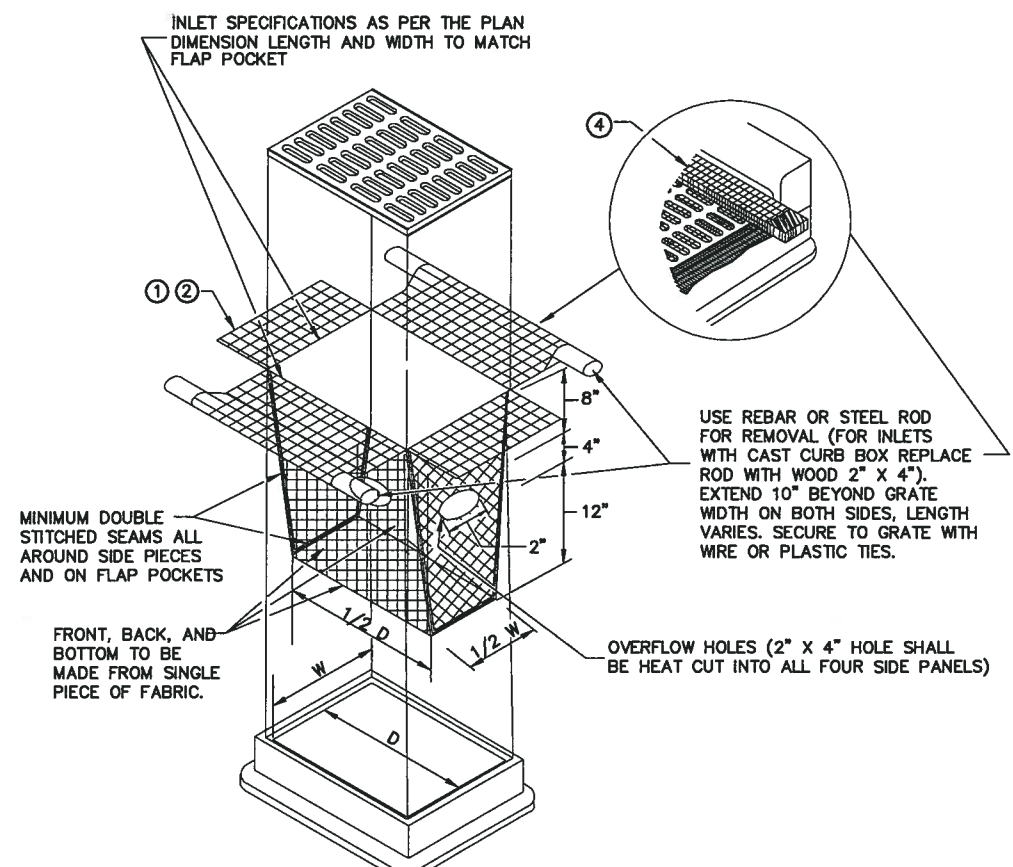
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULUTH LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	
	MATHEW J. BOLF, P.E.
Date: 08/23/12	Lic. No. 43913

	PHONE: 218.279.3000
	418 W SUPERIOR ST STE 200 DULUTH, MN 55802-1512 www.sehinc.com

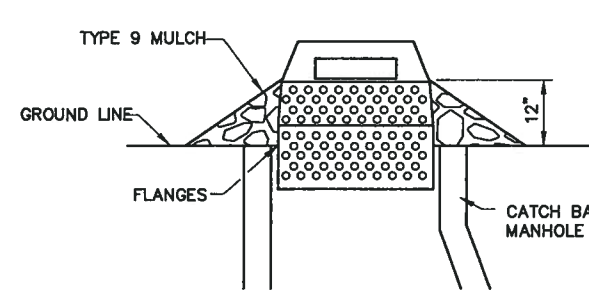
CITY OF DULUTH
10TH STREET
CITY PROJECT NO. 1136

ESTIMATED QUANTITIES	FILE NO. DULUT 121351	2 10
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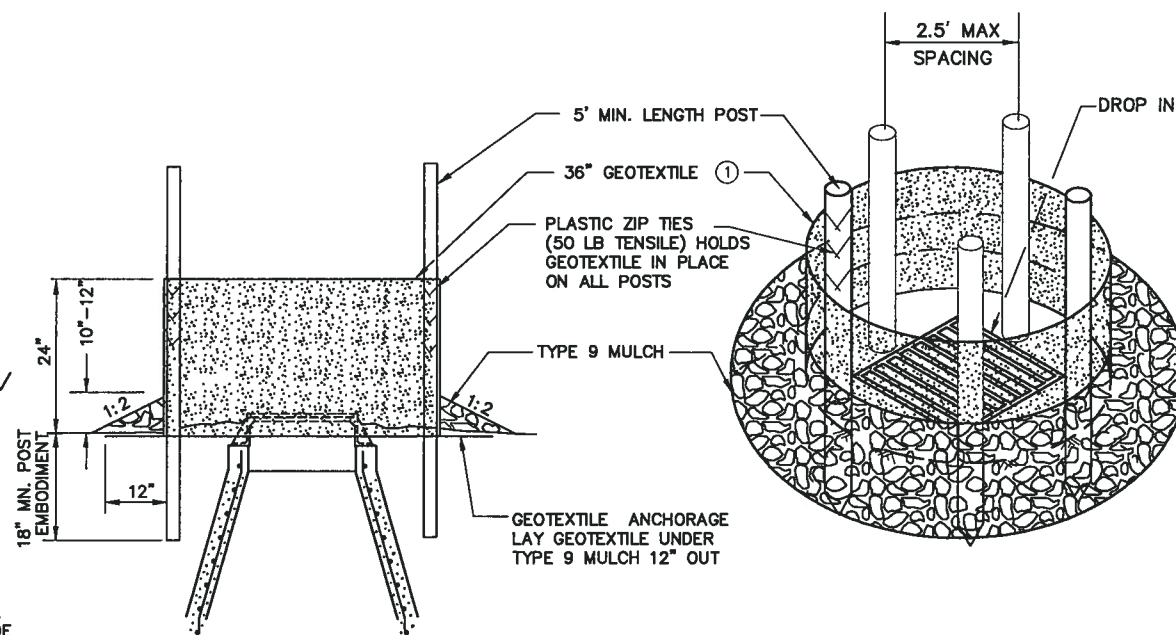


**FILTER BAG INSERT ③**  
(CAN BE INSTALLED IN ANY INLET TYPE  
WITH OR WITHOUT A CURB BOX)

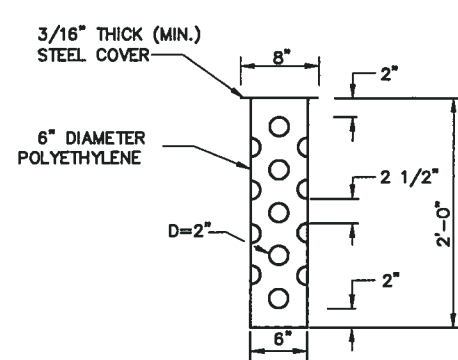


**SEDIMENT CONTROL INLET HAT**

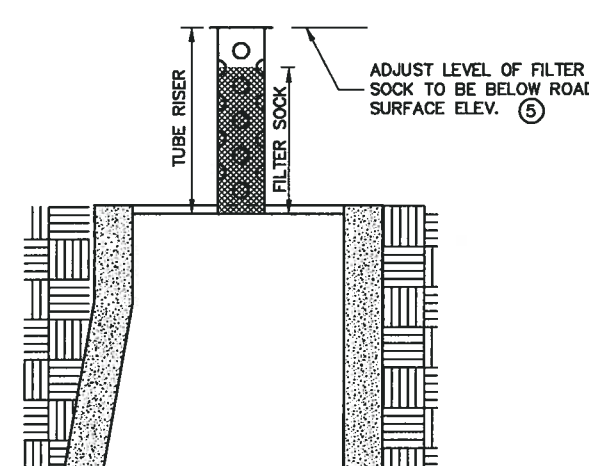
NOTE:  
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL  
OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE  
THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW  
FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING,  
FLANGES AND A LID/COVER.



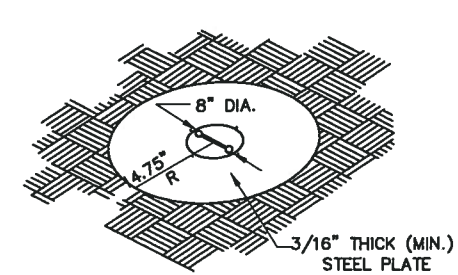
**SILT FENCE RING AND ROCK FILTER BERM**  
USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS



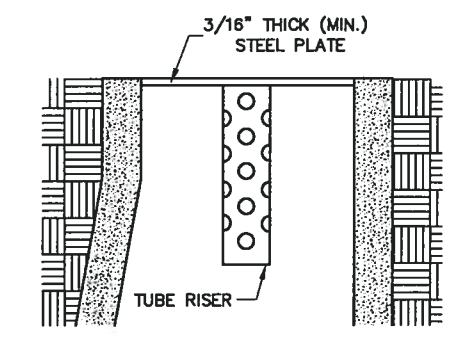
**TUBE RISER**



**SECTION  
(UP POSITION)**



**PERSPECTIVE VIEW**



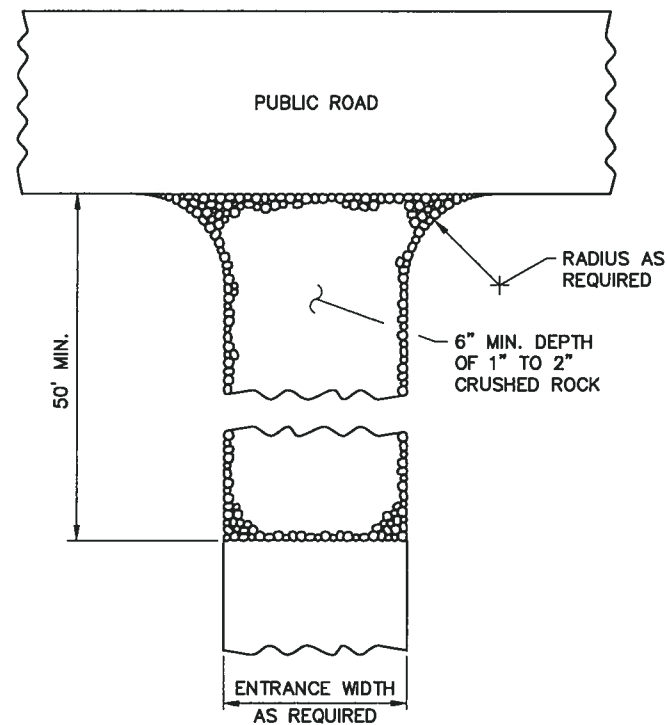
**SECTION  
(DOWN POSITION)**

**POP-UP HEAD**

- NOTES:**  
SEE SPECS. 2573, 3137, 3886 & 3891.
- MANUFACTURED ALTERNATIVES LISTED ON Mn/DOT'S APPROVED PRODUCTS LIST  
MAY BE SUBSTITUTED.
- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH  
DIRECTIONS, MEETING SPEC. 3886.
  - ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF  
10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
  - ③ INSTALLATION NOTES:  
DO NOT INSTALL FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES,  
MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE  
INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN  
THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES.  
WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES,  
TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
  - ④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A  
ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
  - ⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE  
FLOODING OF THE ROADWAY.
  - ⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE  
JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A  
HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED  
AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE  
CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

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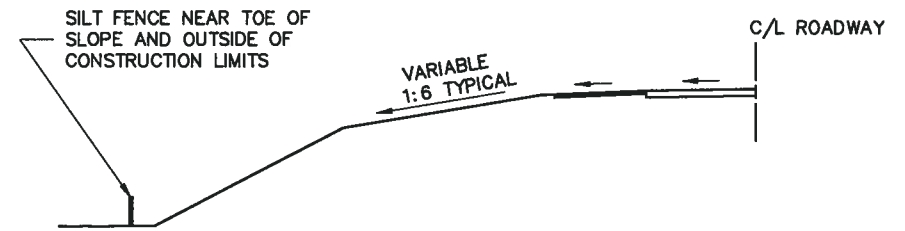


ROCK CONSTRUCTION ENTRANCE ①

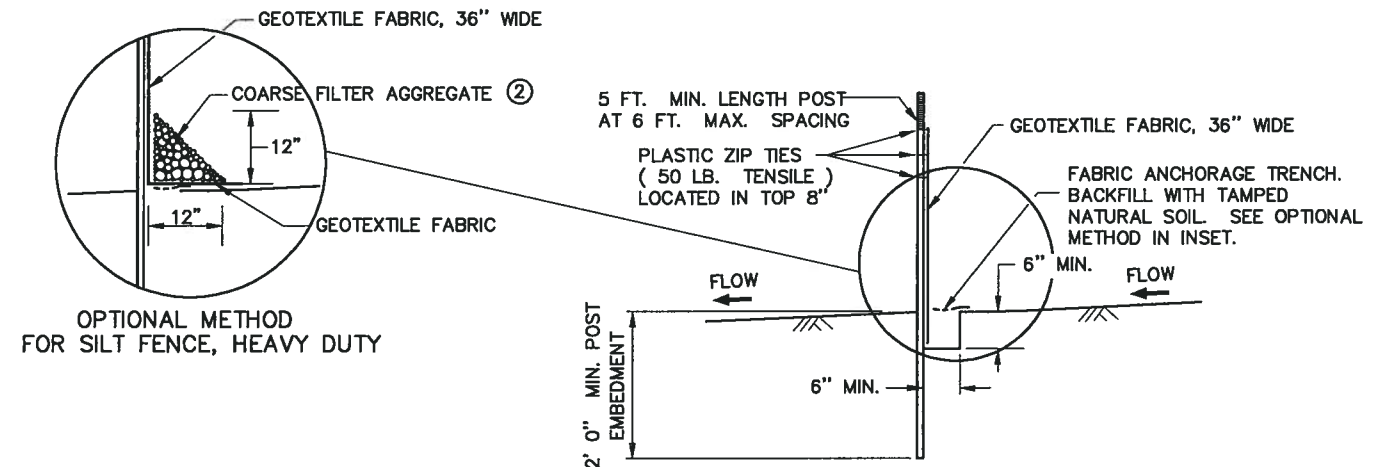
NOTES:

SEE SPECS. 2573, 3149 & 3886.

- ① ROCKS AT ENTRANCE CLEAN WORKSITE MUD OFF OF TRUCK TIRES BEFORE TRUCKS ENTER MAIN ROAD. KEEPING MUD OFF THE ROAD WILL PREVENT AUTO DAMAGE AND KEEP CONSTRUCTION SEDIMENT OUT OF DRAINAGE SYSTEMS AND WETLANDS. GEOTEXTILE MAY BE PLACED UNDER THE ROCK TO KEEP ROCKS SEPARATE FROM SOIL.
- ② COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.



LOCATION OF SILT FENCE  
AT TOE OF ROADWAY EMBANKMENT



SILT FENCE, HEAVY DUTY  
(HAND INSTALLED)

DESIGN GUIDELINES:  
TO PROTECT AREAS FROM SHEET FLOW.  
MAXIMUM CONTRIBUTING AREA: 1 ACRE.

DRAWN BY: ACO  
DESIGNER: DRH  
CHECKED BY: MJB  
DESIGN TEAM

NO.	BY	DATE

REVISIONS	

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

MATHEW J. BOLF, P.E.  
Date: 08/23/12 Lic. No. 43913

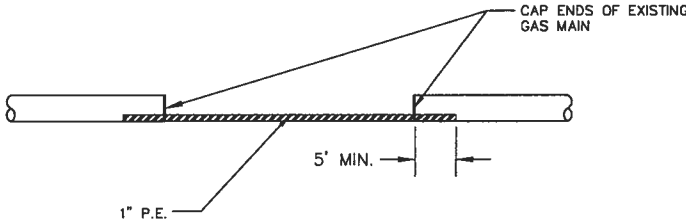
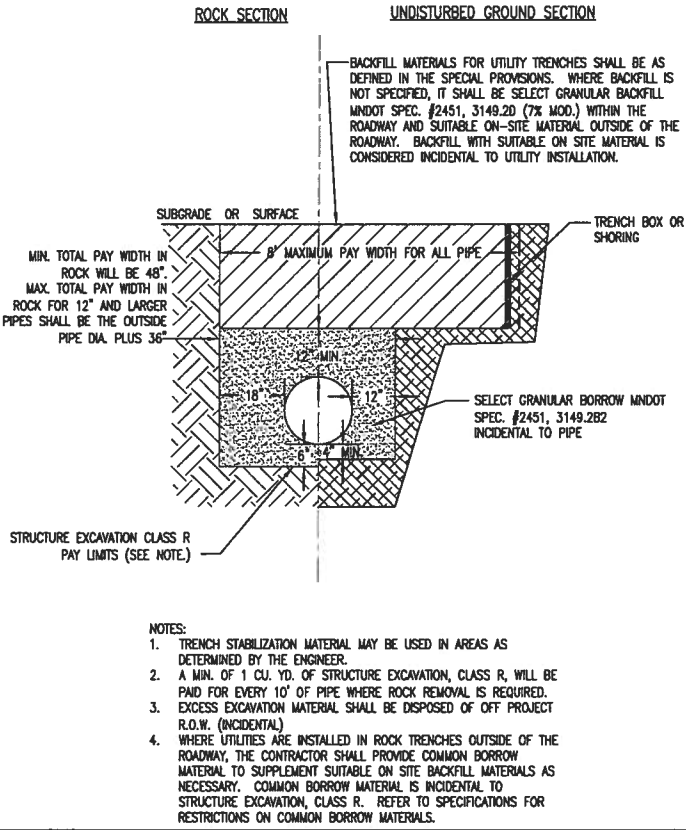
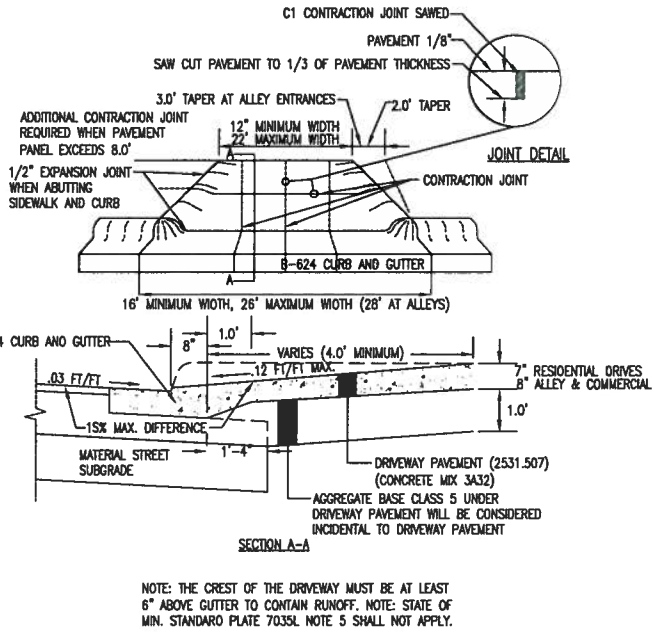
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PHONE: 218.279.3000  
418 W SUPERIOR ST STE 200  
DULUTH, MN 55802-1512  
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CITY OF DULUTH  
10TH STREET  
CITY PROJECT NO. 1136

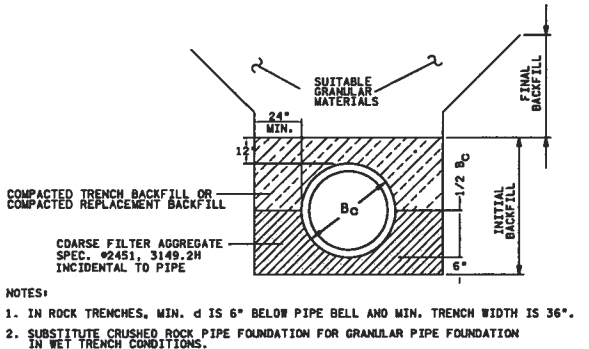
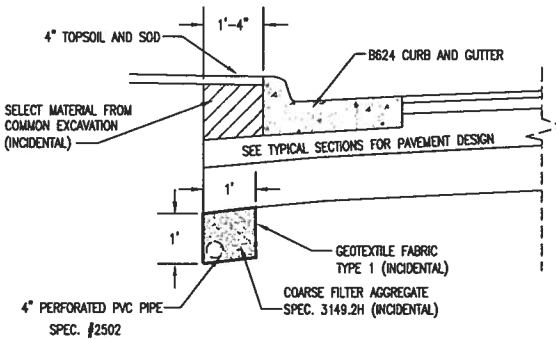
CONSTRUCTION  
DETAILS

FILE NO.  
DULUT 121351

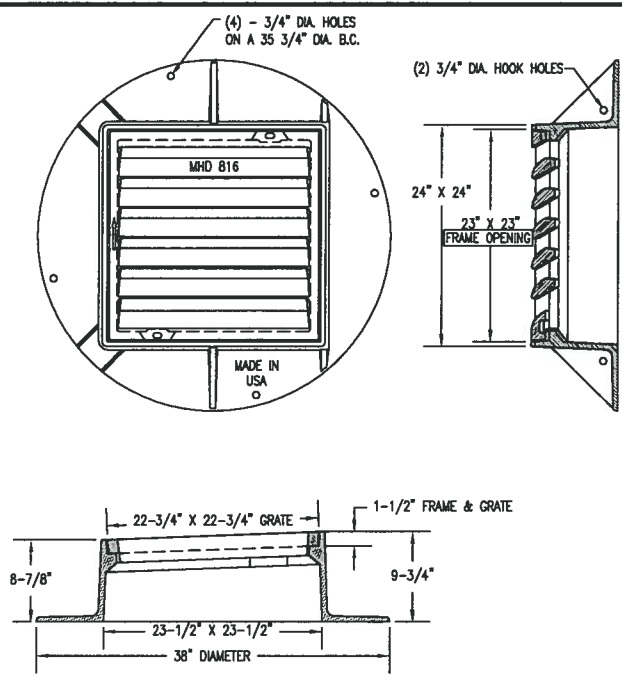
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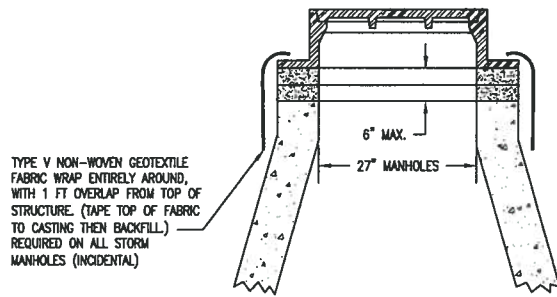
DRIVEWAY & ALLEY ENTRANCES		STR-5	DUCTILE IRON, PE WATERMAIN, PRESSURE SEWER, & FORCEMAIN BEDDING		EX-1
REVIEWED/APPROVED 3/11/09	CITY OF DULUTH STANDARD DETAIL DEPT. OF PUBLIC WORKS AND UTILITIES	NO SCALE	REVIEWED/APPROVED 3/11/09	CITY OF DULUTH STANDARD DETAIL DEPT. OF PUBLIC WORKS AND UTILITIES	NO SCALE
RECONNECT EXISTING ABANDONED GAS MAIN DETAIL			NO SCALE		



PERFORATED PIPE DETAIL		STR-1	PIPE BEDDING DETAIL	
REVIEWED/APPROVED 3/11/09	CITY OF DULUTH STANDARD DETAIL DEPT. OF PUBLIC WORKS AND UTILITIES	NO SCALE	NO SCALE	

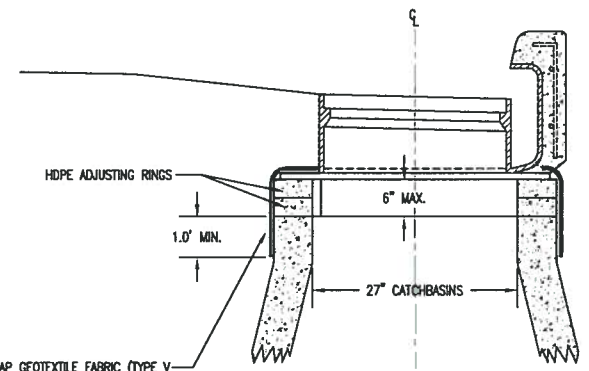
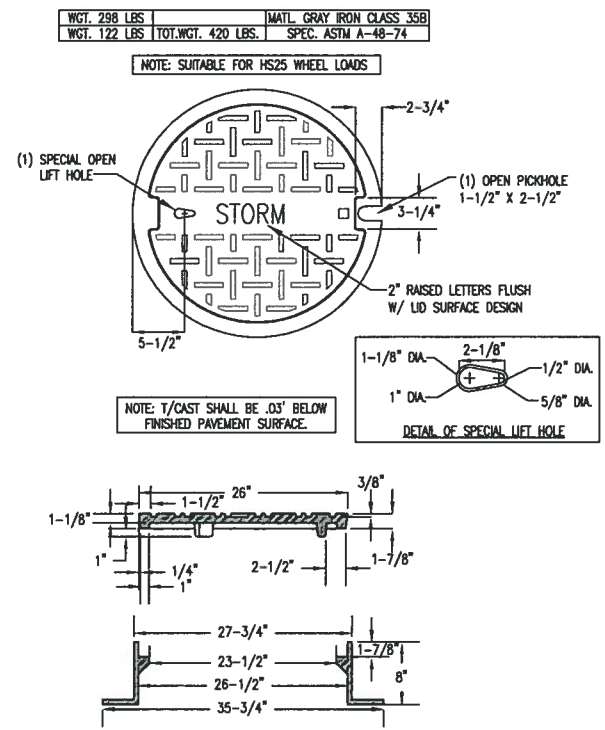


- NOTES:
1. COMPONENT NO'S: TOP FRAME 5005, GRATE 816 (STD PLATE 4154B).
  2. MATERIAL: CAST GRAY IRON ASTM A-48, CLASS 35B
  3. WEIGHT: FRAME 262#, GRATE 131#
  4. ALL GUTTERS UPSTREAM OF CATCH BASINS SHALL BE STAMPED, "NO DUMPING, LEADS TO LAKE" WITH A CITY SUPPLIED STAMP.



TYPE V NON-WOVEN GEOTEXTILE FABRIC WRAP ENTIRELY AROUND, WITH 1 FT OVERLAP FROM TOP OF STRUCTURE. (TAPE TOP OF FABRIC TO CASTING THEN BACKFILL.) REQUIRED ON ALL STORM MANHOLES (INCIDENTAL)

CATCH BASIN/CURB BOX CASTINGS		STRM-3	FABRIC WRAPPED MANHOLE		STRM-5
REVIEWED/APPROVED 2/1/11	CITY OF DULUTH STANDARD DETAIL DEPT. OF PUBLIC WORKS AND UTILITIES	NO SCALE	REVIEWED/APPROVED 2/1/11	CITY OF DULUTH STANDARD DETAIL DEPT. OF PUBLIC WORKS AND UTILITIES	NO SCALE



WRAP GEOTEXTILE FABRIC (TYPE V NON-WOVEN) ENTIRELY AROUND HOPE ADJUSTING RINGS AND TOP OF FLANGE. (TAPE IN PLACE AND BACKFILL.) REQUIRED ON ALL CATCH BASINS (INCIDENTAL)

STORM MANHOLE CASTING		STRM-1	FABRIC WRAPPED CATCH BASIN CASTING		STRM-4
REVIEWED/APPROVED 3/11/09	CITY OF DULUTH STANDARD DETAIL DEPT. OF PUBLIC WORKS AND UTILITIES	NO SCALE	REVIEWED/APPROVED 2/1/11	CITY OF DULUTH STANDARD DETAIL DEPT. OF PUBLIC WORKS AND UTILITIES	NO SCALE

DRAWN BY: ACO					
DESIGNER: DRH					
CHECKED BY: MJB					
DESIGN TEAM	NO.	BY	DATE	REVISIONS	

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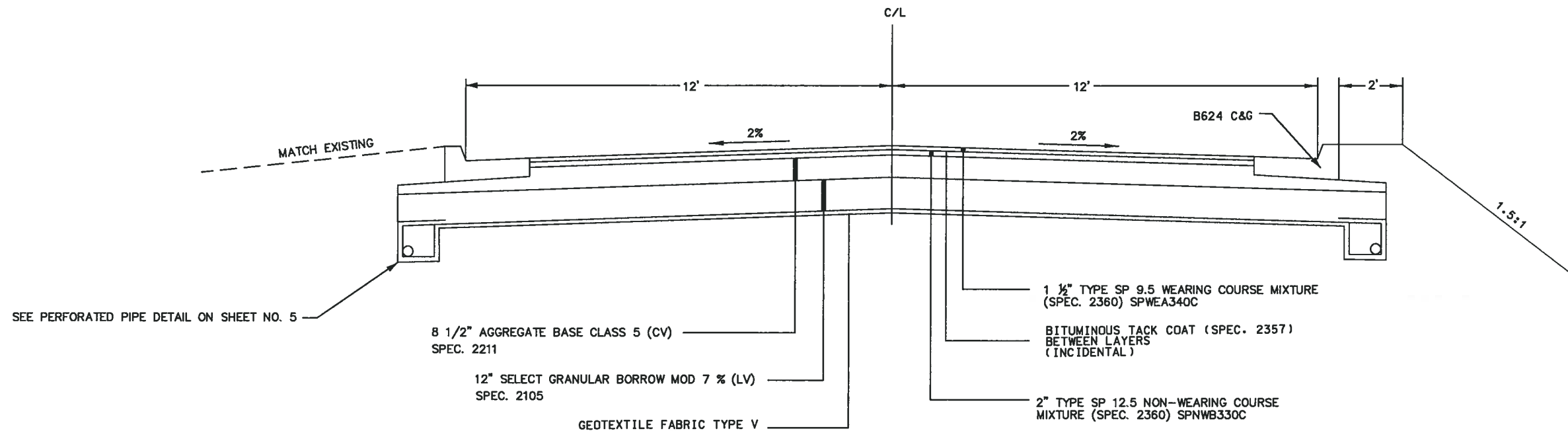
*Mathew J. Bolf*  
Date: 08/23/12  
Lic. No. 43913

SEH  
PHONE: 218.279.3000  
418 W SUPERIOR ST STE 200  
DULUTH, MN 55802-1512  
www.sehinc.com

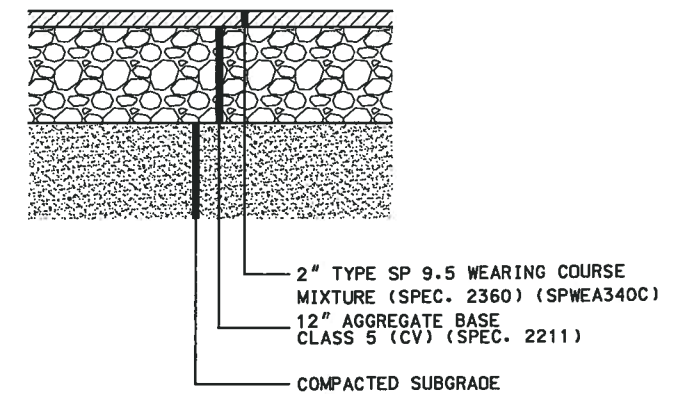
CITY OF DULUTH  
10TH STREET  
CITY PROJECT NO. 1136

CONSTRUCTION DETAILS		FILE NO. DULUT 121351	6 10
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TYPICAL ROADWAY SECTION



DRIVEWAY RESTORATION DETAIL

NTS

DRAWN BY: ACO  
DESIGNER: DRH  
CHECKED BY: MJB  
DESIGN TEAM

NO.	BY	DATE	REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A POLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
Date: 08/23/12  
MATHEW J. BOLF, P.E.  
Lic. No. 43913

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DULUTH, MN 55802-1512  
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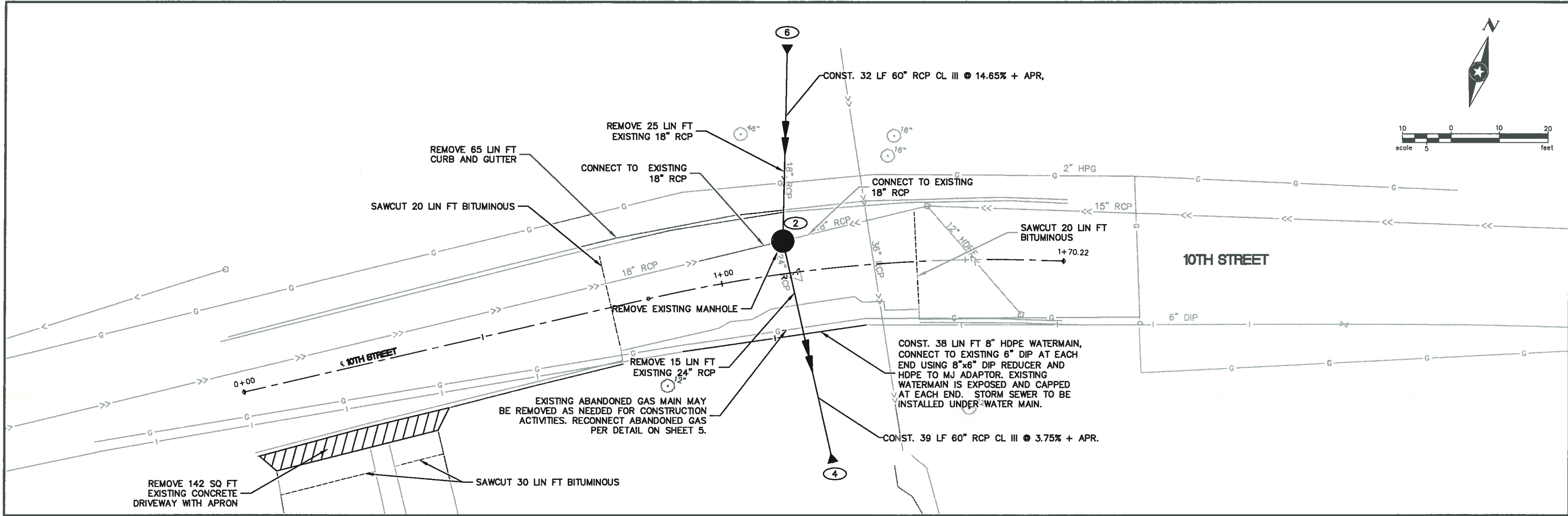
CITY OF DULUTH  
10TH STREET  
CITY PROJECT NO. 1136

TYPICAL SECTION

FILE NO.  
DULUT 121351

7  
10

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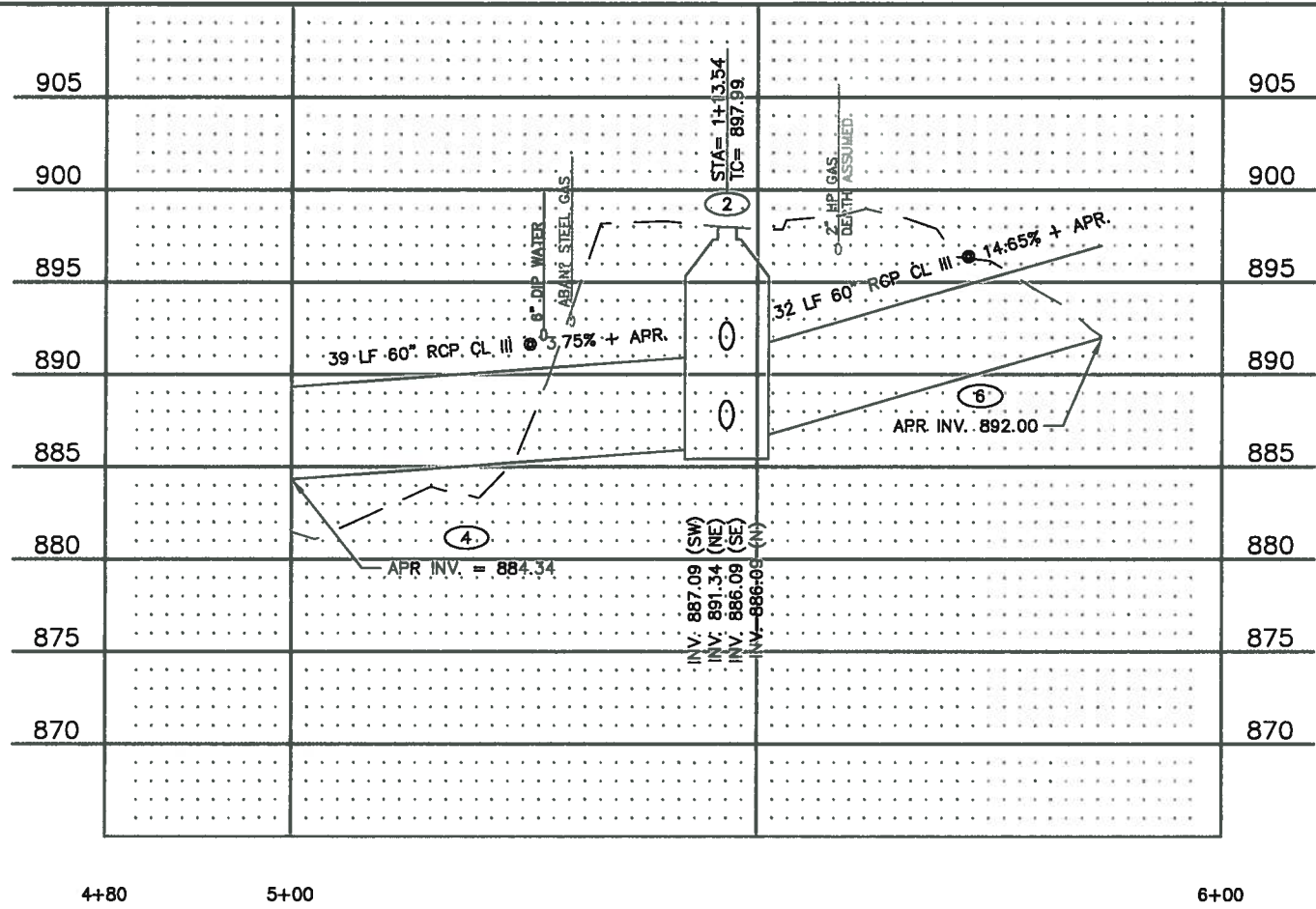


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DRAWN BY:	ACO			
DESIGNER:	DRH			
CHECKED BY:	MJB			
DESIGN TEAM				
NO.	BY	DATE	REVISIONS	

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

*Matthew J. Bolf*  
MATHEW J. BOLF, P.E.  
Date: 08/23/12 Lic. No. 43913

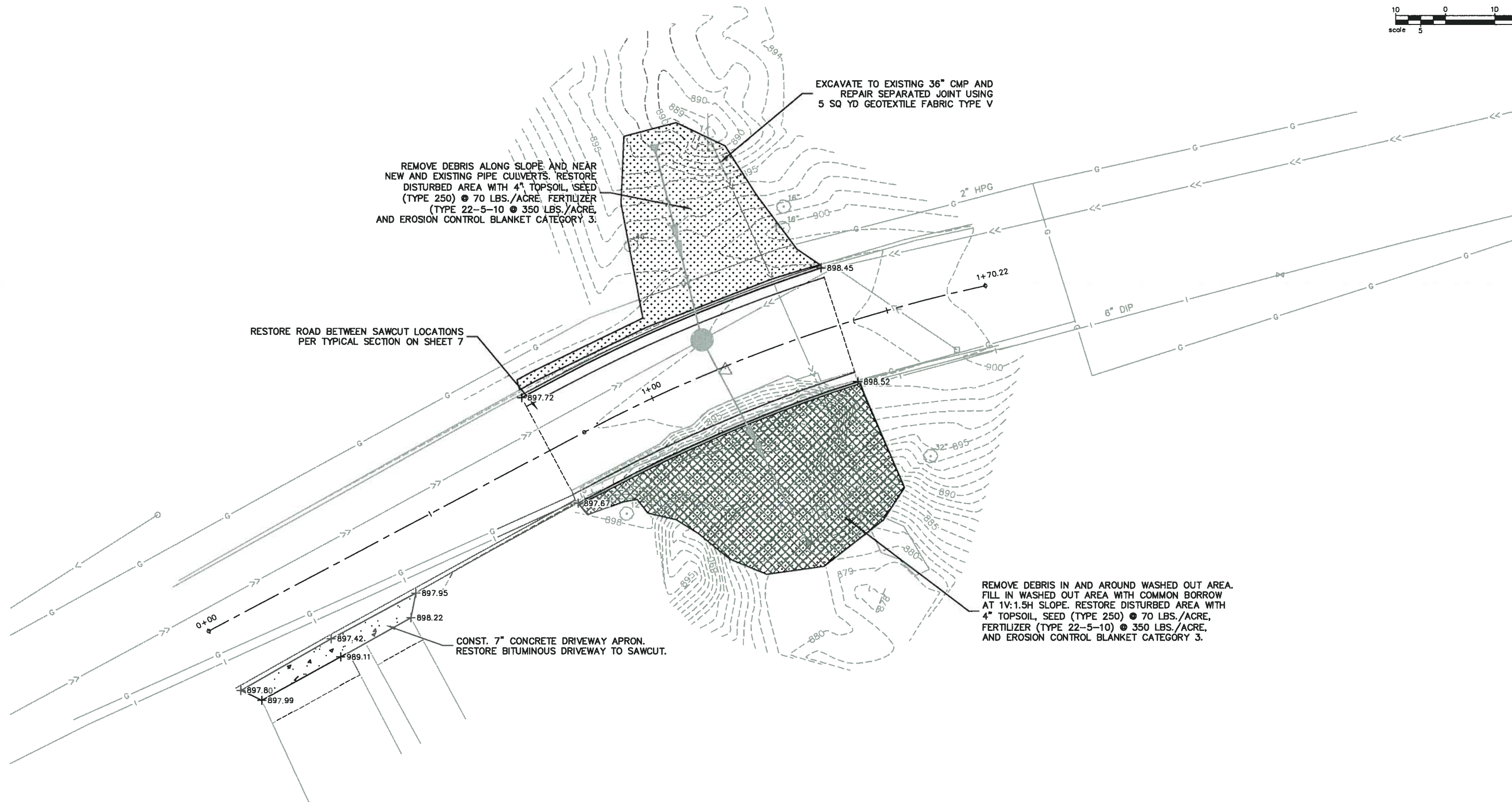


PHONE: 218.279.3000  
418 W SUPERIOR ST STE 200  
DULUTH, MN 55802-1512  
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CITY OF DULUTH  
10TH STREET  
CITY PROJECT NO. 1136

STORM PROFILES

FILE NO.  
DULUT 121351



REMOVE DEBRIS ALONG SLOPE AND NEAR  
NEW AND EXISTING PIPE CULVERTS. RESTORE  
DISTURBED AREA WITH 4" TOPSOIL, SEED  
(TYPE 250) @ 70 LBS./ACRE, FERTILIZER  
(TYPE 22-5-10) @ 350 LBS./ACRE,  
AND EROSION CONTROL BLANKET CATEGORY 3.

EXCAVATE TO EXISTING 36" CMP AND  
REPAIR SEPARATED JOINT USING  
5 SQ YD GEOTEXTILE FABRIC TYPE V

RESTORE ROAD BETWEEN SAWCUT LOCATIONS  
PER TYPICAL SECTION ON SHEET 7

CONST. 7" CONCRETE DRIVEWAY APRON.  
RESTORE BITUMINOUS DRIVEWAY TO SAWCUT.

REMOVE DEBRIS IN AND AROUND WASHED OUT AREA.  
FILL IN WASHED OUT AREA WITH COMMON BORROW  
AT 1V:1.5H SLOPE. RESTORE DISTURBED AREA WITH  
4" TOPSOIL, SEED (TYPE 250) @ 70 LBS./ACRE,  
FERTILIZER (TYPE 22-5-10) @ 350 LBS./ACRE,  
AND EROSION CONTROL BLANKET CATEGORY 3.

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DRAWN BY:	ACO				
DESIGNER:	DRH				
CHECKED BY:	MJB				
DESIGN TEAM	NO.	BY	DATE	REVISIONS	

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DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL  
ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

*Mathew J. Bolt*  
MATHEW J. BOLT, P.E.  
Date: 08/23/12 Lic. No. 43913

 PHONE: 218.279.3000  
418 W SUPERIOR ST STE 200  
DULUTH, MN 55802-1512  
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CITY OF DULUTH  
10TH STREET  
CITY PROJECT NO. 1136

RESTORATION PLAN

FILE NO.  
DULUT 121351